

We claim:

- 1     1.     An indicator for detecting wear to at least one selected part in a semiconductor  
2     manufacturing environment, the indicator comprising:  
3             a selected material having a selected thickness;  
4             wherein said indicator degrades upon exposure to the semiconductor  
5     manufacturing environment at a fixed rate relative to the wear of the selected part; and,  
6             wherein the indicator displays a visual indication of wear of the select part, said  
7     visual indication being discernible by an automated detection device.
  
- 1     2.     The indicator of claim 1 wherein said selected material is the same material as the  
2     selected part.
  
- 1     3.     The indicator of claim 1 wherein said visual indication comprises a distortion in  
2     the shape of said indicator.
  
- 1     4.     The indicator of claim 1 wherein said indicator is affixed in close proximity to the  
2     selected part on a work stage of the semiconductor manufacturing process.
  
- 1     5.     The indicator of claim 1, wherein said selected material is selected form a group  
2     of materials that have known, fixed wear characteristics relative to the note of wear  
3     exhibited by the material composing the selected part.

1     6.     A method for detecting wear to at least one selected part in a semiconductor  
2     manufacturing environment, the method comprising:  
3             providing an apparatus for processing a product comprising the at least one  
4     selected part;  
5             providing a wear indicator comprising a selected material having a selected  
6     thickness;  
7             exposing said wear indicator to the semiconductor manufacturing environment  
8     which degrades said wear indicator at a fixed rate relative to the wear of the selected part  
9     of said apparatus; and,  
10            calculating the amount of wear to the selected part of said apparatus by examining  
11   said wear indicator with an automated detection device.

1     7.     The method of claim 6 wherein said selected material is the same material as said  
2     selected part.

1     8.     The method of claim 6 wherein said visual indication comprises a distortion in the  
2     shape of said indicator.

1     9.     The method of claim 6 wherein said indicator is affixed in close proximity to the  
2     selected part on a work stage of the semiconductor manufacturing process.

1 10. The method of claim 6 wherein said selected material is selected from a group of  
2 materials that have known, fixed wear characteristics relative to the rate of wear exhibited  
3 by the material composing the selected part.

1 11. An indicator for detecting wear to at least one selected part in a non-selective  
2 material removal system, the indicator comprising:  
3 a selected material having selected thickness;  
4 wherein said indicator degrades upon exposure to the non-selective material  
5 removal system at a fixed rate relative to the wear of the selected part; and  
6 wherein the indicator displays a visual indication of wear to the selected part, said  
7 visual indication being discernible by an automated detection device.

1 12. The indicator of claim 11 wherein said selected material is the same material as  
2 the selected part.

1 13. The indicator of claim 11 wherein said visual indication comprises a distortion in  
2 the shape of said indicator.

1 14. The indicator of claim 11 wherein said indicator is affixed in close proximity to  
2 the selected part on a work stage of the semiconductor manufacturing process.

1 15. The indicator of claim 11 wherein said selected material is selected from a group  
2 of material that have known, fixed wear characteristics relative to the rate of wear  
3 exhibited by the material composing the selected part.

1 16. A method for detecting wear to at least one selected part in a non-selective  
2 material removal system, the method comprising:  
3 providing an apparatus for processing a product comprising the at least one  
4 selected part;  
5 providing a wear indicator, comprising a selected material having a selected  
6 thickness;  
7 exposing said wear indicator to a non-selective material removal environment  
8 which erodes said wear indicator at a fixed rate relative to the wear of the selected parts  
9 of said apparatus;  
10 calculating the amount of wear to the selected part of said apparatus by examining  
11 said wear indicator with an automated detection device.

1 17. The method of claim 16 wherein said selected material is the same material as the  
2 selected part.

1 18. The method of claim 16 wherein said visual indication comprises a distortion in  
2 the shape of said indicator.

1     19.     The method of claim 16 wherein said indicator is affixed in close proximity to the  
2     selected part on a work stage of the semiconductor manufacturing process.

1     20.     The method of claim 16 wherein said selected material is selected from a group of  
2     materials that have known, fixed wear characteristics relative to the rate of wear exhibited  
3     by the material composing the selected part.